Publication Awards

Michael Patten (Professor, Oklahoma Biological Survey) authored on chapters in the book, *Ecology and Conservation of Lesser Prairie-Chickens*. That book was awarded the Texas Chapter of The Wildlife Society Scientific Publication of the Year Award.


OU Engineering Senior Wins Grand Prize at 2018 Research Day at the Capitol

A University of Oklahoma Mechanical Engineering Senior in the Accelerated Bachelor and Master of Science program, Devin W. Laurence, is the Grand Prize winner at the 2018 Research Day at the Capitol, sponsored by the Oklahoma State Regents for Higher Education, Oklahoma Established Program to Stimulate Competitive Research and National Science Foundation. Laurence was one of 23 undergraduate student researchers who presented poster presentations based on a technical abstract and five-minute presentation for review and evaluation by a panel of EPSCoR-appointed judges.


Research Day at the Capitol was established more than 20 years ago to showcase the outstanding undergraduate research being conducted at Oklahoma's colleges and universities in the areas of science, technology, engineering and mathematics. Students are nominated by their institution's leadership to participate in the prestigious event. Students present their research to state legislators and the public in the Capitol Rotunda during the legislative session.

Winners were announced at the conclusion of Research Day during an awards ceremony held on March 27 in the Capitol’s Blue Room. For more information, contact Gina Miller, Outreach Coordinator, at gmiller@okepscor.org.
OU Graduate Students Earn NSF National Research Traineeship Program Fellowships

University of Oklahoma graduate students from diverse disciplines earned one-year, $34,000 fellowships in support of aeroecology and environmental sustainability research with the completion of coursework requirements for the National Science Foundation’s National Research Traineeship Program developed by an OU interdisciplinary research team. The program serves as a model at OU to train graduate students from science, technology, engineering, and mathematics fields.

“Now that the OU program is underway, we hope to replicate the program at the University of Delaware and the University of Nebraska and major universities at eight EPSCoR states in subsequent years,” said Jeffrey F. Kelly, professor of biology in the OU College of Arts and Sciences and NRT program principal investigator. “OU is committed to being an innovator for training in interdisciplinary STEM leadership and ensuring sustainability of innovative training developed through the program.”

The seven OU graduate students who completed the NRT coursework certificate in Earth Observation Science for Society and Sustainability and earned fellowships are: Haley Smith, geography; Paula Cimprich, biology; Meelyn Pandit, biology; Rick Wolford, sociology; John Muller, biology; Maryanne Dantzler Kyer, biology; and Elizabeth Besozzi, biology. By completing the required courses, these students have developed effective interdisciplinary research skills that prepare them to engage in research, development and innovation in either the public or private sectors.

A $2.9 million NSF grant awarded in 2015 funded the NRT to fulfill a national need to train data scientists in the field of aeroecology and use of Earth-observation data for societal benefits. For more information about the program, contact jkelly@ou.edu.

New Publications

Routledge published Group Care for Infants, Toddlers, and Twos edited by Deborah J. Norris and Diane M. Horn (Professor/Director, Education/Early Childhood Education Center) (February 2018).

Mirhamed Mirmozafari (Ph.D. student, ARRC/ECE) was interviewed about his paper, “A Highly Isolated Crossed Dipole Antenna with Matched Copolar Beams” and featured in the internationally renowned journal, Electronics Letters. His interview was published in the April 19, 2018 issue (Volume 54, Issue 8).

Awards

Denise Neil-Binion (Ph.D., Art History) was awarded a two-year Andrew W. Mellon Foundation Postdoctoral Fellowship at the Wheelwright Museum of the American Indian in Santa Fe, New Mexico.
Musical Education

OU Music Education faculty members and PhD students recently took an active role in the National Association for Music Education’s (NAfME) biennial Music Research and Teacher Education National Conference in Atlanta. Bryan Koerner (Instructor, Music) and Christopher Baumgartner (Assistant Professor, Music) co-presented as part of the Music Teacher Education research symposium, highlighting findings on the Oklahoma Music Education Association’s Mentorship Program. Melissa Baughman (Lecturer, Music) presented a poster on her recent project investigating preservice teachers’ experiences instructing a children’s choir. Doctoral students Carrie Hoipkemier, Ryan Meeks, and Eric Pennello each presented posters of recent research projects. Jonathan Isaacs (Graduate teaching assistant, Music) assisted Dr. Baumgartner and his research colleague Kimberly Councill (Bucknell University) with a content analysis of music education capstone course syllabi.

Student Recognition

- A group of graduate students brought their design to the National Sustainable Design Expo (NSDE) and showcased it at the USA Science and Engineering Festival (USASEF) on April 7–8 at the Washington Convention Center in Washington, DC. This design is the product from U.S. Environmental Protection Agency (EPA) P3 Awards. This group is made up of Kai Wang (Petroleum Engineering), Guomin Ji (Electrical Engineering), Yuxuan Chen (Electrical Engineering), Huiyu Wang (Mechanical Engineering), and is led and directed by Xingru Wu (Associate Professor, Petroleum and Geological Engineering).

- Seven graduate students received the Nancy L. Mergler Dissertation Completion Fellowship in April 2018. The 2018-2019 recipients are Tracey Bark (Political Science), Ashlea Espinal (Visual Arts), David Hille (Biology), Arianne Hunter (Chemistry and Biochemistry), Bethany Mowry Ramos (History), Karl Roeder (Biology), and Dania Sheaib (Mathematics).

- Alicia Harris (Doctoral student, Art History) was awarded an Ailsa Mellon Bruce Traveling Scholarship for American Art from the Center for Advanced Study in The Visual Arts at the National Gallery of Art in Washington, D.C.

- Andrew Byrd (Ph.D. student, ARRC/ECE) was awarded first place in the student poster competition at the 2018 Texas Symposium on Wireless and Microwave Circuits and Systems. His presentation was entitled “Development of a Passive Multistatic Weather Radar System.”

- Courtney Buchkoski (Graduate student, History) received a Short-Term Visiting Academic Research Fellowship from the American Antiquarian Society in Worcester, Massachusetts. She will be working in residence at the archive for one month this summer researching 19th-century aid organizations that funded emigrant parties to the American West.

- A group of Oklahoma Water Survey student employees received the Donna Shirley Engineering Award. They were awarded this scholarship for their effort to revitalize and study the University of Oklahoma “Duck Pond.” The team will implement the Protecting Our Neighborhood Detention (POND) program at the duck pond for the benefit of OU students. The graduate students are Jennifer Salvo and Kim White, and the undergraduate students are Will Matthews, Adella Kuster, John Hamlin, Alexa Garrison, Mariah Ellingson, and Kolt Vaughn.

- Lindsay Marshall (Graduate student, History) has won the Newberry Library Consortium for Native American Studies Graduate Student Fellowship.
OU Faculty Member Appointed Chair of International Astronomical Union Working Group

A University of Oklahoma professor, Steven Gullberg, has been appointed world chair for archeoastronomy by the International Astronomical Union. As chair, Gullberg will work with 31 nations to further the research and global advancement of archeoastronomy and astronomy in culture.

“It is a true privilege to be entrusted by the International Astronomical Union to guide the study of indigenous astronomy into the future,” said Gullberg, assistant professor of interdisciplinary studies, OU College of Professional and Continuing Studies. “My fine colleagues from around the world will be key to our success and it is a great honor that OU will now be at the forefront of these advancements in global research.”

Gullberg has research interests in the astronomy of the Incas in the Peruvian Andes, the Babylonians in Mesopotamia and early American cultures in New Mexico. A growing field, archeoastronomy studies how ancient societies used the phenomena they observed in the sky, as well as the role that this played in their cultures.

The IAU oversees worldwide astronomy. A global group of astronomers, its mission is to promote and safeguard the science of astronomy in all its aspects through international cooperation. Defining astronomical constants and designating names for new discoveries are two examples of its many activities.

Alexander Nongard to Receive OU’s Carl Albert Award

Alexander Nongard of Tulsa, a University of Oklahoma student majoring in economics, is the recipient of the 2018 Carl Albert Award, presented each year to the outstanding senior in the OU College of Arts and Sciences.

He graduates cum laude with a bachelor’s and master’s degrees in economics and with a graduate certificate in geospatial technologies with distinction during OU’s Commencement ceremonies on May 11. Upon graduation, Nongard intends to return to Tulsa to work in civil service and eventually run for office.

During his college career, Nongard has received numerous scholarships, honors and awards, including the Honors Undergraduate Teaching Fellows Award for outstanding service as an undergraduate teaching fellow for the Honors College; Truman Scholarship finalist; Udall Scholarship honorable mention; Regents’ Award for Outstanding Junior, Cortez A.M. Ewing Public Service Fellowship; Philips 66 Shield Scholar; PACE Award and Oklahoma Regents Award for Higher Education. His research has been published in the OU Journal of Economics, at the Niskanen Center and presented at the 96th Annual Meeting of the American Meteorological Society.

The Carl Albert Award, the most prestigious given to a student by the OU College of Arts and Sciences, is based on academics, moral force of character and promise of future service to the state and nation. First presented in 1966, the award was established to honor Carl Albert, the late OU alumnus and U.S. Speaker of the House, for his distinguished undergraduate career and national service. Julian Rothbaum, former state regent and longtime friend of Albert, endowed the award in 1965.
OU Math Professors to Research Active Learning in Undergraduate Math Education

A University of Oklahoma mathematics professor, Milos Savic, has received a two-year, $93,298 grant from the Association of Public and Land-grant Universities to help undergraduate students pursuing science, technology, engineering, and mathematics degrees succeed in introductory math courses. Savic and team will use the grant to improve and assess a recently-developed active learning pre-calculus course taught to 1,000 OU students each year.

“This grant will continue the pioneering work of OU’s Department of Mathematics in first-year mathematics,” said Savic. “It recognizes us as national leaders in pursuit of superior mathematics teaching practices.”

The team for this project includes Savic, Deborah Moore-Russo, Keri Kornelson and Noel Brady, mathematics professors in the OU College of Arts and Sciences.

The National Science Foundation is supporting the project, known as SEMINAL: Student Engagement in Mathematics through an Institutional Network for Active Learning, with a $3 million, five-year grant. The initiative will place emphasis on helping underrepresented minority students succeed in introductory math courses that are foundational in STEM fields. The nine universities joined with the three core universities to study how to enact and support institutional change fostering the use of active learning.

OU and the eight other universities were selected through a rigorous peer review process—California State University, East Bay; California State, Fullerton; Kennesaw State University; Loyola University; Morgan State University; The Ohio State University; University of Maryland; and the University of Texas Rio Grande Valley.
A University of Oklahoma Advanced Radar Research Center team is developing a new antenna and related technologies for U.S. Navy next-generation radar systems with a two-year, $3.5 million grant from the U.S. Department of Defense, Office of Naval Research. The ARRC research and development program under way is designed to improve the agility and multi-functionality of radio frequency sensors and communication systems, while enabling future implementation on a variety of surfaces and platforms.

“The ARRC team is developing agile sensors that can effectively maneuver in frequency and space while retaining the ability to avoid and cancel interference,” said Nathan Goodman, director of research at the ARRC and professor in the School of Electrical and Computer Engineering, Gallogly College of Engineering. “Multi-function capability will also reduce the number of individual systems needed during deployment, improving mobility and operational agility. Our tunable, integrated antenna designs will allow agile RF sensor implementation on smaller platforms.”

The ARRC program will focus on four major areas of research: research on integrated filter-antennas that provide frequency tunability with reduced size and weight; a state-of-the-art, all-digital phased array antenna and electronics that will be synchronized with another all-digital phased array system already under development at the ARRC; implementation of dual-band, dual-polarized antennas; and algorithms for using and exploiting the agility enabled by these hardware technologies.

ARRC team members involved with this project include: Goodman, Jessica Ruyle, Hjalti Sigmarrson, Mark Yeary, Jorge Salazar Cerreno, Caleb Fulton and Robert Palmer. For more information about this program or other ARRC research and capabilities, please contact goodman@ou.edu.

Patents

- Brian Grady (Academic Director, Chemical, Biological and Materials Engineering (CBME)), Jeffrey Harwell (Professor, CBME), and Guangzhe (Greg) Yu (Ph.D. graduate) were awarded a patent for “Ethoxylated Surfactants.”
- Kurt Gramoll (Professor, Aerospace and Mechanical Engineering) was awarded a patent for “Vibration Reducing Pipe Junction.”
- Zhisheng Shi (Professor, Electrical & Computer Engineering (ECE)), Jijun Qiu (Senior Research Scientist, ECE), and Binbin Weng (Assistant Professor, ECE) were awarded a patent for “Photovoltaic Lead-Salt Semiconductor Detectors.”
Faculty Recognition

- David Wrobel (Dean, Arts and Sciences) has been nominated as the next President of the Western History Association. He will serve as President-Elect from October 2018 to October 2019, and as President from October 2019 to October 2020.

- Robert W. Nairn (David L. Boren Professor and Viersen Presidential Professor, Civil Engineering and Environmental Science) was awarded an Excellence in Environmental Engineering and Science Honor Award from the American Academy of Environmental Engineers and Scientists. Nairn was recognized for his novel research utilizing passive treatment systems to address trace metals contamination and accepted the award at the Environmental Engineering and Science Awards Luncheon and Conference on April 19 at the National Press Club in Washington, DC.

- The latest rankings reported by the Society for Industrial-Organizational (I-O) Psychology show that the Department of Psychology’s I-O doctoral program is ranked 6th and 2nd out of 53 programs in research productivity overall and per faculty, respectively, as indexed by total research journal publications (as well as interdisciplinary publications). The department’s I-O faculty consist of Lori Snyder, Eric Day, Shane Connelly, and Mike Mumford. This same report shows Mike Mumford to be the second most published researcher in I-O Psychology.

- Katerina Tsetsura (Gaylord Family Professor, Strategic Communication) will present a competitively selected research paper on Global Capabilities in Public Relations at the 2018 International Communication conference in Prague, Czech Republic. Tsetsura was a leading researcher in the global eight-country research project to create a Global Capability Framework in Public Relations. This research was conducted as part of a global project funded by the University of Huddersfield, UK, in collaboration with Lund University, Sweden; Singapore Management University, Singapore; University of Pretoria, South Africa; Universidad de Navarre, Spain; University of Oklahoma, USA; Mount Saint Vincent University & McMaster University, Canada; RMIT University & Curtin University, Australia; Universidad Abierta Interamericana, Argentina. The project is supported by the Global Alliance for Public Relations and Communication Management.

- The University of Oklahoma recognized faculty members at its annual Faculty Tribute ceremony hosted by the OU Board of Regents and President David L. Boren on Tuesday, April 10, 2018. To see the complete list of the faculty honored, please visit http://www.ou.edu/publicaffairs/archives/2018/april/ou-faculty-recognized-at-2018-faculty-tribute.

- W. Jackson Rushing III (Eugene B. Adkins Presidential Professor, Art History and Mary Lou Milner Carver Chair in Native American Art) curated an exhibition with catalog for the Fred Jones Jr. Museum of Art: Generations in Modern Pueblo Painting: The Art of Tonia Peña and Joe Herrera that was on view from January 23–April 8.

- Mohammed Atiquzzaman (Presidential Professor, Computer Science) presented an invited talk entitled “IP-based Data Communications with Space: Architectures and Protocols” at the Distinguished Lecture Series at the Institute of Computing and Cybersystems, a research arm of the Alliance of Computing, Information and Automation at Michigan Tech.

- Scott Johnson (Associate Professor, Classics) received a fellowship from the John Simon Gruggenheim Memorial Foundation. This prestigious fellowship will support Johnson’s work on his current research projects on the Syriac language. You can read about it at https://www.gf.org/fellows/all-fellows/scott-johnson-2/.
## March New Awards

<table>
<thead>
<tr>
<th>Name</th>
<th>Dept./Center</th>
<th>Funding Agency</th>
<th>Project Title</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bonnie Pitblado &amp; Meghan Dudley</td>
<td>Anthropology</td>
<td>U.S. Dept. of the Interior, Bureau of Land Management</td>
<td>Developing an Oklahoma specific</td>
<td>$25,000</td>
</tr>
<tr>
<td>Tassie Hirschfeld &amp; Kirsten de Beurs</td>
<td>Anthropology/Geography &amp; Environmental Sustainability</td>
<td>NASA–Headquarters</td>
<td>Land Use Patterns and Political Instability as Predictors for the Re-Emergence of Malaria in the Caucasus</td>
<td>$242,311</td>
</tr>
<tr>
<td>Andrea Vincent &amp; Luz-Eugenia Fuenzalida</td>
<td>Arts &amp; Sciences</td>
<td>Vista Partners, LLC, Parker, CO</td>
<td>ANAM Norms Study</td>
<td>$18,011</td>
</tr>
<tr>
<td>Lance Lobban &amp; Laura Bartley</td>
<td>Chemical, Biological &amp; Materials Engineering/Microbiology &amp; Plant Biology</td>
<td>Oklahoma State University</td>
<td>Switchgrass and Sorghum Biomass Optimization for Staged Thermal Conversion to Biofuels</td>
<td>$150,000</td>
</tr>
<tr>
<td>Anthony Burgett &amp; Zhibo Yang</td>
<td>Chemistry &amp; Biochemistry</td>
<td>OU Health Sciences Center</td>
<td>Mass Spectrometry Detection of Drugs in Single Bladder Cancer Cells from Patients</td>
<td>$5,285</td>
</tr>
<tr>
<td>Indrajeet Sharma</td>
<td>Chemistry &amp; Biochemistry</td>
<td>National Science Foundation</td>
<td>CAREER: Stereoselective Carbene Cascade Cyclizations</td>
<td>$390,000</td>
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<tr>
<td>Jason Vogel</td>
<td>Civil Engineering &amp; Environmental Science</td>
<td>Central Oklahoma Master Conservancy District</td>
<td>Lake Thunderbird Shoreline Erosion Research Project</td>
<td>$219,992</td>
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<tr>
<td>Thomas Jones</td>
<td>Cooperative Institute for Mesoscale Meteorological Studies</td>
<td>University of Wisconsin</td>
<td>Assessing the impact of assimilating ground-based infrared radiometer data into convective-scale numerical weather prediction models</td>
<td>$35,199</td>
</tr>
<tr>
<td>Tian You Yu, Robert Palmer, &amp; Boon Leng Cheong</td>
<td>Electrical &amp; Computer Engineering/Vice President for Research/Advanced Research Radar Center</td>
<td>Novimet</td>
<td>Technical Support for the Design and Test of an X-Band SSPA-Based Polarimetric Weather Radar</td>
<td>$36,315</td>
</tr>
<tr>
<td>Lawrence Baines &amp; Audra Plummer</td>
<td>Instructional Leadership &amp; Academetic Curriculum</td>
<td>National Writing Project Corporation</td>
<td>2018-19 SEEC C3WP High-Need PD School</td>
<td>$40,000</td>
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<td>Milos Savic, Keri Kornelson, &amp; Deborah Moore-Russo</td>
<td>Mathematics</td>
<td>The Association of Public and Land-Grant Universities</td>
<td>OUR CALL: OU’s Research and Commitment to Active Learning and Leadership</td>
<td>$78,513</td>
</tr>
</tbody>
</table>
## President's Monthly Research and Development Highlights

“Creating Tomorrow”

<table>
<thead>
<tr>
<th>Name</th>
<th>Dept./Center</th>
<th>Funding Agency</th>
<th>Project Title</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>David Parsons &amp; Steven Cavallo</td>
<td>Meteorology</td>
<td>U.S. Dept. of Defense, Office of Naval Research</td>
<td>Understanding and Reducing Barriers to Predictive Skill in the Arctic with a Focus on Arctic Cyclones and Sea Ice</td>
<td>$10,000</td>
</tr>
<tr>
<td>Phillip Chilson</td>
<td>Meteorology</td>
<td>Helios Remote Sensing Systems</td>
<td>Marine Atmospheric Radar for Boundary Layer Estimation (MARBLE)</td>
<td>$105,745</td>
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<tr>
<td>Xuguang Wang &amp; Aaron Johnson</td>
<td>Meteorology</td>
<td>U.S. Dept. of Defense, Office of Naval Research</td>
<td>Understanding and Improving the Predictability of Arctic Meso- and Synoptic-scale Cyclones through Multi-scale Ensemble based Data Assimilation and Ensemble Forecast</td>
<td>$10,000</td>
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<tr>
<td>Xingru Wu</td>
<td>Petroleum &amp; Geological Engineering</td>
<td>CNPC Tubular Goods Research Institute</td>
<td>Casing Integrity Study in Hydraulic Fracturing Unconventional Reservoirs</td>
<td>$47,880</td>
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<tr>
<td>Alisa Fryar</td>
<td>Political Science</td>
<td>National Science Foundation</td>
<td>Collaborative Research: RAPID: Hurricane Response, Governance Structures, and Public Higher Education</td>
<td>$60,284</td>
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<tr>
<td>James Regens</td>
<td>Provost Direct</td>
<td>Health Sciences Center</td>
<td>HSC</td>
<td>Work performance in men with trans-femoral amputation</td>
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<tr>
<td>David McLeod</td>
<td>Social Work</td>
<td>State of Oklahoma, Department of Corrections</td>
<td>Assessment of the Co-Occurring Reentry Intensive Care Coordination Team (after-the-fact)</td>
<td>$39,000</td>
</tr>
</tbody>
</table>

**Number of new awards for the month:** 20  
**Dollar amount of proposals funded:** $1,840,793